

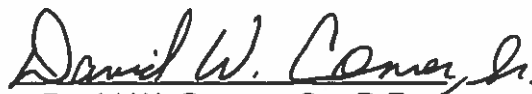
**FEASIBILITY STUDY**

**New Route  
From US 52  
To US 311  
Stokes and Forsyth Counties**

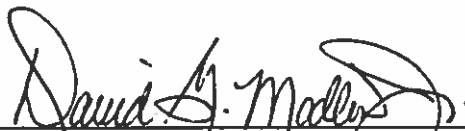
**Division 9**

**R-3823**

Prepared by the  
Program Development Branch  
Division of Highways  
N. C. Department of Transportation



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2/26/98  
Date

## **R-3823**

New Route  
From US 52  
To US 311  
Stokes and Forsyth Counties

Division 9

### **I. General Description**

This preliminary study describes a new continuous route from the west side of Stokes County to the east side. It is recommended that a new route be constructed from US 52 in Forsyth County to US 311 in Stokes County. For a location map, please see Figure 1. The length of the project is approximately 15 miles (24 km) and the recommended alignment is as follows:

1. Follow existing Moore-RJR Road (SR 1634-SR 1622) and existing Mountainview Road (SR 1122-SR 1132) from the eastern US 52 interchange ramps, in Forsyth County, to NC 66, in Stokes County.
2. Follow existing Mountainview Road (SR 1970) from NC 66 to approximately approximately 1.1 miles (1.8 km) east of SR 1966.
3. On new location from Mountainview Road, at approximately 1.1 miles (1.8 km) east of SR 1966, to SR 1945, at SR 1944.
4. Follow existing SR 1945 from SR 1944 to approximately 0.6 miles (1.0 km) east of SR 1944.
5. On new location from SR 1945, at approximately 0.6 miles (1.0 km) east of SR 1944, to US 311, at NC 65.

Two cross sections, are recommended within the project termini. From US 52 to NC 66, the recommended cross section is a 5-lane, curb-and-gutter section, 64-feet (19.5 m) wide (face-to-face), with 10-foot 3.0-m) wide berms. From NC 66 to US 311, the recommended cross section is a 2-lane, rural shoulder section, with 12-foot (3.6-m) wide travel lanes, and 8-foot (2.4-m) wide shoulders, 4-feet (1.2 m) paved.

The recommended right-of-way width, for the entire project length, is 100 feet (30.5m). It is estimated that the project will require the relocation of 25 residences and 4 businesses.

The total cost for right-of-way and construction is estimated to be \$49,700,000 as follows:

Right-of-Way	\$ 7,900,000
Construction	41,800,000
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Total Cost	\$49,700,000

This study is the initial step in the planning and design process for this project and is not to be considered the product of exhaustive environmental or design investigations. The purpose of the study is to describe the problem, recommend a treatment including costs, and identify potential problem areas that deserve consideration in the planning and design phases.

## **II. Need For Project**

The purpose of this project is to provide a continuous route, meeting current 2-lane standards, from the west to east side of Stokes County. A project with similar alignment (Southern Connector) is included in the Stokes County Thoroughfare Plan. The project was requested by the Stokes County Board of Commissioners.

There is currently no continuous route from the west side of Stokes County to the east side. West to east travel is via existing narrow and winding secondary roads with numerous stops and turns.

The recommended route is generally rural in nature and is characterized by woodlands, farmlands, light density residential development, and rolling terrain. There are scattered residences along the existing roadways. There is some commercial development at the intersection of Moore-RJR Road (SR 1122) and King Street (SR 1236) and the intersection of Mountainview Road (SR 1122) and NC 66. There is a major manufacturing facility located on the west side of US 52 at Moore-RJR Road (SR 1634).

At US 52 and Moore-RJR Road, there is an existing interchange. The interchange is a modified diamond with a loop in the northeast quadrant.

From US 52 to approximately 0.6 miles (1.0 km) south of King Street, Moore-RJR Road (SR 1634 in Forsyth County and SR 1122 in Stokes County) is a 2-lane rural shoulder section with a 24-foot (7.3 -m) wide pavement and 6-foot (1.8-m) wide soil shoulders. From approximately 0.6 miles (1.0 km) south of King Street to King Street, the roadway is a 3-lane rural shoulder section with a 36-foot (11.0-m) wide pavement and 6-foot (1.8-m) wide soil shoulders. The intersection with Spainhour Road (SR 1117) is controlled by a 4-way stop condition and includes a flashing signal. The intersection with King Street is controlled by a signal.

From King Street to SR 1955, existing Mountainview Road (SR 1122-SR 1132-SR 1970) is generally a 2-lane rural section with 12-foot (3.6-m) wide travel lanes and 6-foot (1.8-m) to 8-foot (2.4-m) wide soil shoulders. The roadway includes steep grades and sharp curves.

The Mountainview Road-NC 66 intersection is controlled by a traffic signal. NC 66 is a 2-lane section with 12-foot (3.6-m) wide travel lanes and 6-foot (1.8-m) to 8-foot (2.4-m) wide soil shoulders. The intersection is commercially developed in all four quadrants.

Existing SR 1945 is generally a 2-lane, rural shoulder section with a 20-foot (6.1-m) wide pavement and 8-foot (2.4-m) wide soil shoulders.

US 311 (the east project termini) currently creates a tee-intersection with NC 89. East of the intersection, US 311 is a 2-lane shoulder section with 12-foot (3.6-m) wide

travel lanes and 6-foot (1.8-m) wide soil shoulders. The intersection with NC 89 is signalized.

There are 3 structures located along the project route. The structures are as follows:

Bridge # 428

Bridge # 428 is the interchange bridge which carries Moore-RJR Road over US 52. The bridge has a clear deck width of 42 feet (12.8 m) and is approximately 220 feet (67 m) long. It was constructed in 1986 and has a sufficiency rating of 89.5 out of a possible 100 points.

Bridge # 51

Bridge # 51, over Neatmans Creek, is located on SR 1974 at approximately 1.8 miles (2.9 km) east of SR 1955. The bridge has a clear deck width of 24 feet (7.3 m) and is approximately 120 feet (37 m) long. It was originally constructed in 1953 and was reconstructed in 1990. It has a sufficiency rating of 88.1.

Bridge # 98

Bridge # 98, over Sandy Branch, is located on SR 1945 at approximately 0.9 miles (1.4 km) east of SR 1944. The bridge has a clear deck width of 24 feet (7.3 m) and is approximately 60 feet (18 m) long. It was constructed in 1960 and has a sufficiency rating of 48.5

In addition to the structures noted above, there is a pipe culvert located under SR 1970, at approximately 1.5 miles (2.4 km) east of SR 1966. The pipe culvert carries the flow from Town Creek.

There is one existing railroad crossing along the project route. Moore-RJR Road crosses Southern Railway immediately south of King Street. There is one set of tracks with two trains per day at a speed of 25 miles per hour (40 km/hr). The crossing has crossbucks but does not have gates or flashers. It is estimated that the exposure index will reach or be approaching 30,000 near the design year; however, a grade separation is not recommended as a part of this project.

In the King area, the 1997 Average Daily Traffic (ADT) estimate, on existing Mountainview Road is estimated to range from approximately 6,300 to 9,400 vehicles per day (vpd). It is anticipated that the design year (2025) traffic in this area will be approximately 11,000 to 16,300 vpd. The design year traffic on the new route, east of NC 66 is estimated to be approximately 7,000 vpd.

In the King area, the current Level Of Service (LOS), on Mountainview Road is estimated to be Level D and approaching Level E which would prevail through the design year if no improvements are made. If the recommended project is constructed, it is estimated that the Level of Service will improve to Level A on Mountainview Road and Level C east of NC 66. These improved levels should prevail through the design year.

### **III. Detailed Description**

It is recommended that a new route be constructed from US 52 in Forsyth County to US 311 in Stokes County. For a location map, please see Figure 1. The

length of the project is approximately 15 miles (24 km) and the recommended alignment is as follows:

1. Follow existing Moore-RJR Road (SR 1634-SR 1622) and existing Mountainview Road (SR 1122-SR 1132) from the eastern US 52 interchange ramps, in Forsyth County, to NC 66, in Stokes County.
2. Follow existing Mountainview Road (SR 1970) from NC 66 to approximately 1.1 miles (1.8 km) east of SR 1966.
3. On new location from Mountainview Road, at approximately 1.1 miles (1.8 km) east of SR 1966, to SR 1945, at SR 1944.
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Two cross sections, are recommended within the project termini. From US 52 to NC 66, the recommended cross section is a 5-lane, curb-and-gutter section, 64 feet (19.5 m) wide (face-to-face), with 10-foot 3.0-m) wide berms. From NC 66 to US 311, the recommended cross section is a 2-lane, rural shoulder section, with 12-foot (3.6-m) wide travel lanes, and 8-foot (2.4-m) wide shoulders, 4 feet (1.2 m) paved.

The recommended right-of-way width, for the entire project length, is 100 feet (30.5m). It is estimated that the project will require the relocation of 25 residences and 4 businesses.

At the US 52 interchange, a new exit ramp should be constructed from US 52 to Moore-RJR Road in the southeast quadrant for traffic eastbound to Moore-RJR Road. The existing loop in the northeast quadrant should be removed thereby creating a full diamond interchange (it is thought that the loop was originally included due to the deep fill required for a ramp in the southeast quadrant). The inside eastbound lane of Moore-RJR Road should be a through lane from the west side of US 52 and the outside eastbound lane should accept traffic from the new interchange ramp. The outside westbound lane of Moore-RJR Road should terminate as a right-turn onto the US 52 northbound ramp and the inside westbound lane should be a through lane to the west side of US 52.

Gates and flashers should be constructed at the Moore-RJR Road-Southern Railway crossing.

The NC 66 approaches to Mountainview Road should be widened to include an eastbound right-turn lane and a westbound left-turn lane.

The existing flashing signal at Spainhour Road (SR 1117) should be replaced with a new traffic signal and the existing signals at King Street, NC 66, and US 311 should be upgraded.

A new bridge should be constructed at Neatmans Creek and Bridge # 98, at Sandy Branch should be replaced. The bridges should have a clear deck width of 38 feet (11.6 m). New box culverts should be constructed at Miles creek and three unnamed creeks and the existing culvert at Town Creek should be replaced with a new box culvert or bridge.

SR 1966, SR 1937, SR 1938, and SR 1939 should be realigned at the intersections with the new route.

The total cost for right-of-way and construction is estimated to be \$49,700,000 as follows:

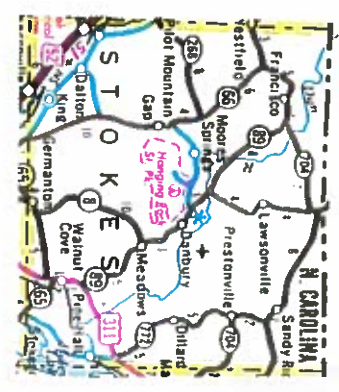
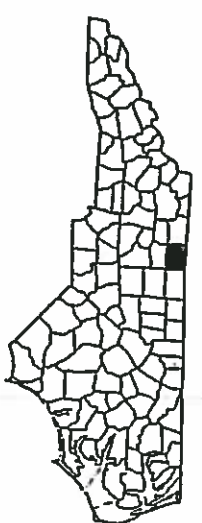
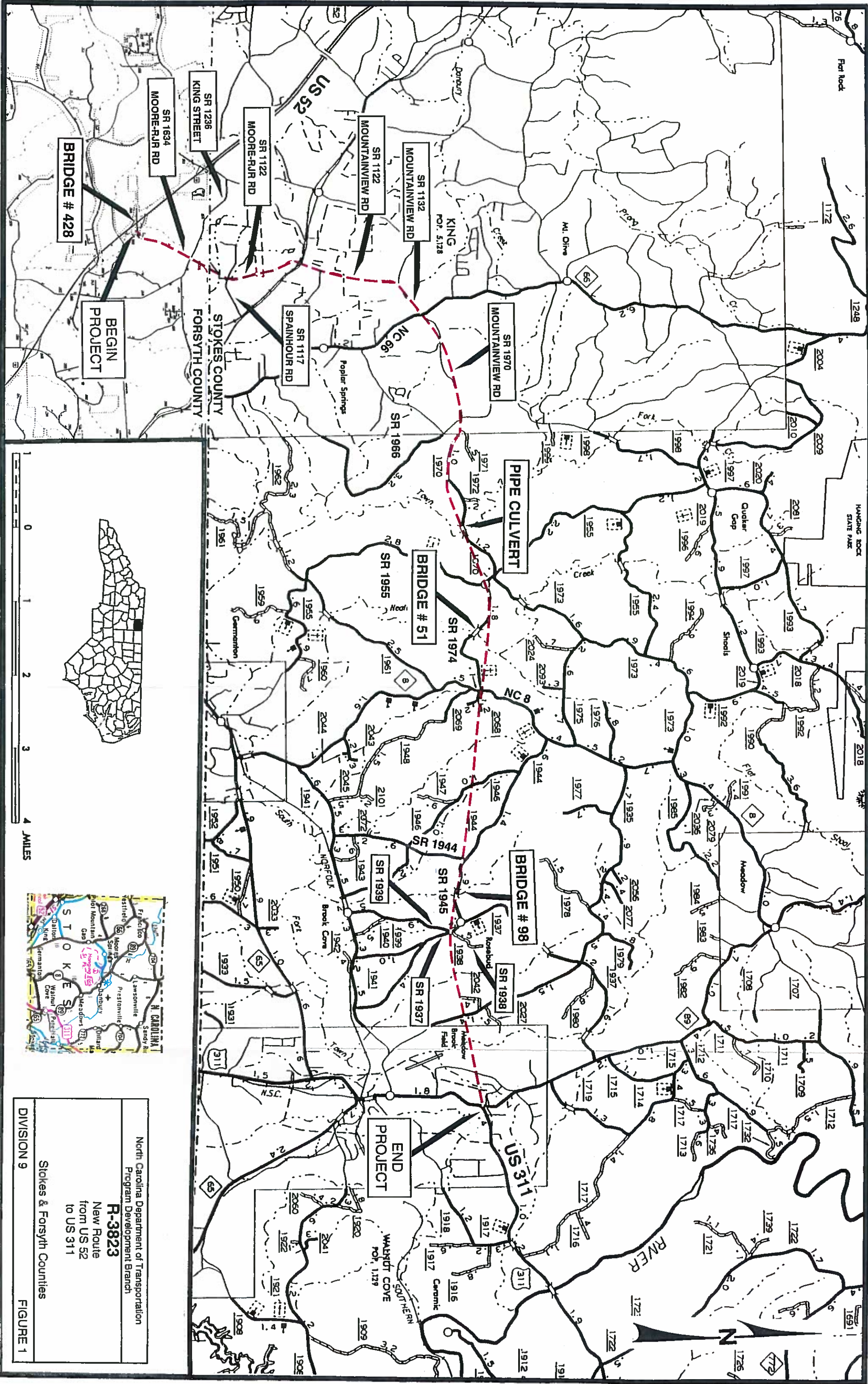
Right-of-Way	\$ 7,900,000
Construction	41,800,000
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Total Cost	\$49,700,000

#### **IV. Other Comments**

An environmental screening was not conducted for this study; however, due to the construction potential in a number of creek areas, Corps of Engineers permits and wetlands mitigation may be required. The costs for wetlands mitigation is not included as part of the above estimated project costs.

No provisions for bicycles have been included in this report.





North Carolina Department of Transportation  
Program Development Branch  
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to US 311

Stokes & Forsyth Counties

DIVISION 9

FIGURE 1

